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Jordan Times

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جوردان تايمز يومية سياسية تصدر بالانجليزية عن المؤسسة الصحفية الاردنية "الراي"

هكذا من الاصل

Today's Weather

It will be cloudy, with some rain and a decrease in temperature. Winds will be northwesterly moderate. In Aqaba, it will be partly cloudy, with showers at times, southerly moderate winds and rough seas.

	Overnight	Daytime
	Low	High
Amman	11	18
Aqaba	17	27
Deserts	10	20
Jordan Valley	14	24

Wednesday's high temperatures: Amman 24, Aqaba 29. Sunset Thursday: 6:07 p.m. Sunrise Friday: 5:04 a.m. Sunset Friday: 6:08 p.m. Sunrise Saturday: 5:03 a.m.

June 6, Number 1634 AMMAN, THURSDAY-FRIDAY APRIL 16-17, 1981 — JUMADA AL THANI 12-13, 1401 Price: Jordan 100 fils; Syria 1 pound; Lebanon 1 pound; Saudi Arabia 1.50 riyals; UAE 1.50 dirhams; Great Britain 25 pence

Divide and rule' policy to blame for disorder in Lebanon--Hassan

AMMAN, April 15 (J.T.) — His Royal Highness Crown Prince Hassan has blamed misguided policies "divide and rule" for the current violence in Lebanon, and repeated that the Soviet Union must be included in any Middle East peace talks if they are to succeed.



The Crown Prince noted that "the USSR is a fact of life in the area" and said the United States "must visualise a participation (in the peace process) by those who can help change the picture."

"One can hardly picture the United States alone carrying the burden of comprehensive peace in the area," he said, "since withdrawal from the rest of the occupied Arab lands is much more difficult than withdrawal from the barren desert of Sinai, which still faces great difficulties in the framework of the Camp David process."

Prince Hassan also observed that the five-point Gulf security programme outlined by His Majesty King Hussein in an April 8 speech in Britain has "met with approval in the Arab World." The King suggested that the superpowers declare the Gulf a neutral zone; that they concentrate on a speedy solution to the Palestine question; that the defence of the Gulf be left to the states of the region; that Gulf powers guarantee oil supplies to their customers; and that Gulf states be encouraged to seek outside assistance if threatened.

The Crown Prince made these points in an interview with journalist Ibrahim Abu Nab, full text of which appears on page 3.

"I believe that the traditional annual coexistence and amity in this area have been greatly disrupted by the policies of 'divide and rule' pursued by those who seek influence in this area. The tragic situation in Lebanon is but an example of the consequences of such policies," Prince Hassan said. "The peoples of this area must in sincerity and clarity see the positive aspects of the conflict in Lebanon."



The triumphant crew of the U.S. space shuttle Columbia relax Wednesday with their wives after passing a post-flight physical. From left: Virginia Young and Robert Crippen and Suzy and John Young.

A clean bill of health today for U.S. space shuttle's crew

HOUSTON, April 15 (R) — Astronauts John Young and Robert Crippen, the first Americans to journey into space in six years, were reported in excellent health today after their triumphant return to earth in a pathbreaking reusable spaceship.

The flight by Mr. Young and Mr. Crippen in the shuttle Columbia proved that winged spacecraft can put men into orbit and bring them back to earth with the ease of an airliner.

Dr. Sam Pool, chief of medical sciences at the Johnson Space Center, said the astronauts had come through their flight in excellent condition. "They had a very good post-flight physical and we are very pleased with the way they came out," he said.

Mr. Young, a 50-year-old veteran of five space missions, and Mr. Crippen, a 43-year-old rookie, flew the Columbia on a 36-orbit maiden voyage which ended yesterday with a perfect three-point landing—the first touchdown on wheels by a spacecraft.

The two crewmen were found to be in such fine shape after their arduous 54-hour, 27-minute flight that they were allowed to spend last night at home with their families.

But Mr. Young and Mr. Crippen will not be exposed to the public until they have finished a full week of reviewing Columbia's proving flight with officials of the National Aeronautics and Space Administration (NASA).

The excellent medical report was a key indication of the success of the mission. One of the main purposes of the shuttle system is to allow people without astronaut training to fly in earth orbit.

NASA officials at Edwards Air Force Base in California were busy checking the key element in the highly complex system—the winged orbiter which Mr. Young and Mr. Crippen flew to a flawless landing on a dry lake bed there after blasting off on Sunday from Cape Canaveral, Florida.

Columbia was to undergo further inspection at Edwards before it is strapped on top of a special jumbo jet for a ride back to the Kennedy Space Center in Florida.

It will be mated there with two booster rockets and another giant fuel tank for its second test flight some time this autumn.

Lebanese group admits to kidnapping Moheisen expected home today, brother reports

By a Jordan Times Staff Reporter

AMMAN, April 15 — Jordanian diplomat Hisham Al Moheisen, released yesterday after 68 days of captivity, arrives here tomorrow to be reunited with his family, his brother told the Jordan Times today.

Mr. Ali Moheisen said he was awaiting word from another brother, Jawdat, now in Damascus, on exactly when the kidnapped diplomat would be leaving the Syrian capital. "so that we can go out to the border post (at Ramtha) to meet him."

Irbid Governor Mohammad Khalaf Daoudiyeh, who went to Ramtha to welcome Mr. Moheisen home spent two hours at the border post before he was told that the diplomat would not be travelling to Amman today.

Jordan Television, Petra, the Jordan News Agency, and local newspapers sent teams to Ramtha to cover the diplomat's arrival. They stayed there until 5 p.m.

According to the Reuters news agency, Mr. Moheisen was to meet with Palestine Liberation Organisation Chairman Yasser Arafat and Syrian President Hafez Al Assad before leaving for Amman.

Mr. Moheisen, the Jordanian charge d'affaires in Lebanon, was kidnapped the morning of Feb. 6 by a gang of gunmen who raided his Beirut apartment building. He was delivered by his captors yesterday to the command post for Syria's peacekeeping forces in the Lebanese town of Sbaitura. His Lebanese maid, 41-year-old Zakia Khour, also was freed with Mr. Moheisen.

group, admitted that his organisation had kidnapped Mr. Moheisen.

Mr. Suheil Hamadeh, the military commander of the front, said the group had condemned Mr. Moheisen to death but then relented under Syrian pressure.



Hussein to Carrington: Let EEC curb Israelis

LONDON, April 15 (Petra) — His Majesty King Hussein today called on members of the European Economic Community (EEC) to put an end to recurrent Israeli acts of aggression against southern Lebanon.

He also called on the European community to adopt an attitude that would steer the Middle East away from polarisation and the policy of power axes.

Speaking at a meeting here with the British foreign secretary, Lord Carrington, King Hussein also called for the restoration of Palestinian rights, which the King described as "the fundamental element that would bring about stability and security to the region."

The Palestinians must be granted the opportunity to exercise their right to determining their future and establish an independent state in their homeland, the King said.

The Palestine problem is the crux of the conflict in the Middle East and Israel's aggressive policy there threatens the Arab people and the region at large, the King added.

At the meeting, during which they also discussed bilateral and international issues, King Hussein called on the EEC nations to widen their dialogue with the Palestine Liberation Organisation, the sole legitimate representative of the Palestinian people.

Britain takes over the EEC presidency in July. King Hussein is in Britain on a private visit, although he met Prime Minister Margaret Thatcher last week.

All smiles in New Delhi



British Prime Minister Margaret Thatcher gets a warm greeting from Indian Prime Minister Indra Gandhi in New Delhi Wednesday as Mrs. Thatcher begins a visit to India and the Gulf states. Story on page 8 (AP wirephoto)

Wazzan: We'll aid Zahle

BEIRUT, April 15 (R) — Prime Minister Shafiq Al Wazzan said today his government would intensify contacts with neighbouring Syria to help end the crisis in Lebanon.

Speaking to reporters after a weekly cabinet meeting, he also said that measures had been taken to meet the everyday needs of the besieged eastern city of Zahle.

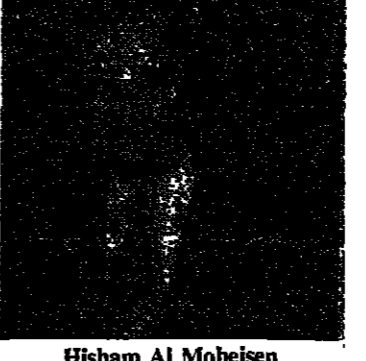
The market town of 150,000 people, 50 kilometres east of Beirut, has borne the brunt of the fighting during the past two weeks between right-wing Phalangist Party militiamen and troops from the predominantly Syrian Arab Deterrent Force (ADF).

Today Zahle, in east Lebanon's Bekaa Valley, was reported quiet except for occasional sniper fire. But it was still ringed by Syrian troops and tanks.

Mr. Wazzan said the cabinet agreed there must be an intensive pursuit of all possible methods to stabilise the present ceasefire.

Ministers also decided on "an intensification of contacts with fraternal Syria, particularly to help resolve the crisis and to promote national accord," the prime minister added.

"Measures have been taken to tackle the situation in Zahle on the basis of everyday life," he continued.



Hisham Al Moheisen

Woman to join PLO board

AMMAN, April 15 (J.T.) — The Palestine Liberation Organisation's Executive Committee will have a woman member for the first time in the organisation's fifteen years of existence, PLO sources said here today.

They said the Palestinian National Council (PNC), currently meeting in Damascus, has referred to its legal committee a proposed amendment to the PLO Charter to add six members to the 15-member executive committee.

"One of the new members will be a woman," the sources said.

Mr. Issam Abdul Hadi, president of the Federation of Palestinian Women, is the strongest candidate for the executive committee membership. Other candidates include Palestinian writer Mrs. Samira Abu Ghazaleh and poet May Sayegh.

The sources also said a new "department" to deal with *awqaf* (religious endowments and affairs) will be added to the committee.

Saudi defence minister expected to visit U.S.

DOHA, Qatar, April 15 (A.P.) — Saudi Arabia's defence minister, Prince Sultan Ibn Abdul Aziz, is expected to visit the United States soon to discuss U.S. arms sales to the kingdom, the Qatari News Agency reported today.

The agency quoted well-informed sources in Saudi Arabia as saying Prince Sultan's expected visit was to discuss possible U.S. approval of sale of five radar-equipped Airborne Control and Warning Systems (AWACS) aircraft and parts to upgrade the kingdom's F-15 jet interceptors.

The U.S. Senate has yet to approve the sale and the terms have not yet been finalised by the U.S. administration. The proposed sale has been criticised by Israel, which argues Saudi Arabia may use the arms against it.

A nine-member U.S. Senate delegation led by Senate Majority Leader Howard Baker is on a tour of Saudi Arabia, Israel and Egypt. Sen. Baker, now beginning a three-day stay in Egypt, his last stop, was quoted as saying in Tel Aviv that the fact-finding tour might swing the vote for or against the sale.

The agency also carried excerpts of an interview by Prince Sultan with the Qatari daily, Al Arab.

The agency said Prince Sultan rejected all forms of foreign military presence in the Gulf area "from any side or of any size," adding Saudi Arabia's stand was "firm and will never change" on this issue.

Saudi Arabia and Arab Gulf states are opposed to a U.S.-sponsored plan for a Rapid Deployment Force in the Gulf to protect the oilfields and offset the Soviet military presence in the area.

Prince Sultan was quoted as warning against any interference from foreign countries in the internal affairs of the area and hinted that if the superpowers are concerned with security in the area and the continuation of oil flow they should not use it as a battleground for their duels and ambitions.

3 killed, 5 seized in Galilee violence

FAR YASSIF, Israel, April 15 (A.P.) — Police held five men today following the death of two people at the hands of an armed mob seeking vengeance for the killing of a youth Saturday at a soccer match.

Tension ran high in this Galilee Arab village, which was severely maged during yesterday's rampage. More than 100 attackers came by foot and car from the neighbouring Arab village of Julis and attacked Kfar Yassif with grenades and machine guns.

A Kfar Yassif man, 33-year-old Mr. Daoud Habib, was killed in his house as he and his wife were baking pastries for Easter, witnesses said. Later, an 18-year-old high school student, Mr. Tahsin Ivriri, died in hospital. Ten other Kfar Yassif residents were wounded. Numerous houses were damaged, three of them gutted by fire, and if a dozen cars were torched. The windows of the church were shattered and its rooftop cross hit by bullets. Kfar Yassif residents said several stores were looted.

The uncle of 16-year-old Salah Hino, the spectator who was killed during a match between his team from Julis and a Kfar Yassif team, said the violence was to be expected.

"I don't justify it," he said, "but when you go to a soccer match and head of being friendly they come and kill you, people get heated."

Police searched vehicles entering Kfar Yassif to prevent the villagers stockpiling weapons for another round in the vendetta. Kfar Yassif leaders complained bitterly that Israeli police failed to prevent the attack, and that many of the arms used were Israeli army weapons. They decreed a two-day general strike in the village.

U.S. rethinks its role in Sinai force

CAIRO, April 15 (A.P.) — Mindful that most Arab states don't want U.S. soldiers stationed in the Middle East, the State Department is studying alternate proposals to putting American troops into a Sinai Peninsula peace force, sources here say.

Western sources familiar with the cables between Cairo and Washington, as well as the dialogues between the United States and Israel, say the U.S. might scrap plans for stationing troops in the Sinai in favour of simply paying other nations to do so.

Another alternative, say the sources, is for the United States to provide the border force with equipment and technical experts, but leave it to other nations to provide the troops.

The Sinai force is called for in the American-sponsored Camp David Middle East peace agreements. The documents specify the United Nations should create and manage the force, but the U.N. may be prevented from doing this because of a likely Soviet Union veto in the Security Council. The U.N. cannot despatch forces without the council's approval.



U.S. Secretary of State Alexander Haig meets his Saudi counterpart, Prince Saud Al Faisal: little enthusiasm for U.S. troops in the region.

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MIDDLE EAST

They paved the way for the future...

A kingdom of traders

Written by Philip C. Hammond
Illustrated by Michael Grimsdale

Classical historians and archeologists have long overwhelmed us with the importance of Rome. Lately, though, they seem to have realised that the Romans, despite great achievements, were not alone in the ancient world. In the last 20 years, for example, the scholars have begun to pay attention to a people who made more than a passing impact upon the ancient world: the Nabateans.

A pre-Islamic Arab group, the Nabateans, or "Nabatu," made their first impact on the ancient world as Red Sea raiders, but then, defeated too often, became nomads who next appear herding their goats and sheep along the western coast of the Arabian Peninsula and moving ever northward toward less populated areas. By the early part of the fourth century B.C., they had reached areas previously occupied by a group known as Edomites, who, for reasons unknown, had themselves moved westward after several hundred years of sedentary occupation.

Gradually advancing into this territory — in today's Jordan — the Nabatu found a land-locked site which offered security, pasturage and access to the major trade routes of the ancient Middle East — a paramount factor since the Nabatu, who had traversed the southern ends of those routes, had sensed the importance of controlling them. The site in which they settled, characterised by a towering mountain within a rock-girt valley, had been known in Edomite times as Sela — "Rock" — but the Nabatu renamed it Rekumu when they settled in. Today it's called Petra.

By the late second century B.C. the Nabateans had consolidated themselves, politically and socially, into a kingdom — a hereditary monarchy, resembling a sheikhdom — under one Harith I (Aretas I), called *yanos*. That ominous title soon changed, however; it became *basilaos*, the more common Greek equivalent for "king", and eventually *melak*, a Nabatean word reflecting the final realisation of the people's own background and language, and the

culture's own quasi-democratic characteristics. Strabo tells us, for instance, that the king served guests with his own hands and remained standing throughout the meal in order to make sure they were well fed, and the kingdom's coins were reminders that their king "loved his people," and was the "restorer and supporter" of the nation.

By the Roman Period, the Nabateans had already begun to make Rekumu — Petra — a place of beauty. By then they had constructed the main theatre, with a capacity of more than 8,500 people, a paved main street with a colonnade, domed baths, and at least two magnificent temples to the local gods, along with a city now full of other public buildings and private homes.

Decoration in Petra rivalled distant Pompeii, the columns and orders were taken from the best architectural authorities of the day, and the construction was virtually all of quarried stone. In addition, over 850 monumental tomb facades dotted the faces of every cliff, outcrop and mountain in the area. Some were simple, but some rose over 120 feet, with multiple stories and, often, with chambers which had required the removal of tons of stone.

The Nabatu had not neglected security either. The north and south ends of Petra's valley were sealed off by walls — with watch towers, guard posts, and other defensive installations — and the front door was defended by the vast, narrow cleft known today as the "Siq," a narrow passage meandering almost a mile between towering cliffs, and provided with a high dam to divert flood waters and preclude direct assault. Already, Roman legions had marched toward Petra, and though they had been bought off, they had been pulled back the second time, to face internal crises in Rome, the growth of the Nabatean kingdom almost guaranteed a third expedition and thus demanded "preventative" defence.

At the same time, the needs of the people had to be met, and

from the skill of Nabatean engineers came masterpieces of hydraulic and agricultural development: aqueducts, runnels, catchment basins, diversion dams, reservoirs, pressure-piped water for the city, devices to retain moisture on the hillsides, terraces to increase production and intensive cultivation of the suburban plains.

From this strange urban centre in the midst of nowhere, this once pastoral culture expanded until Petra became the hub of a civilisation embracing over 1,000 sites scattered from Madain Salih, 500 miles from Jeddah, in today's Saudi Arabia, to the upper edge of the Dead Sea, with brokers and agents equally scattered along the Arabian Gulf, Egypt, and on into Greece and Rome.

By the early first century the "city" controlled some 25 per cent of the gross national product of Rome itself, with the goods of India, China, Persia and the Arabian Peninsula, most importantly frankincense and myrrh from the south-passing through Nabatean hands. Profiting from their days as wandering nomads, the Nabateans came to control this international trade by carrying their wares on their own caravans, along their own closely guarded routes, using their own rest stops and depots, and collecting their own taxes. Rarely before, if ever, had a single Middle Eastern kingdom so completely dominated mercantile endeavours so profitably.

It's no wonder, of course, that distant Rome, as well as such neighbours as Herod the Great, began to envy Nabatean control of the great north-south, east-west trade routes, nor that the Nabateans developed amazing political skills as well as business acumen. While every other major local kingdom of the Middle East was being absorbed by Rome, Nabatea alone seems to have survived — for over 170 years after the arrival of the general Pompey who came to "liberate" the Middle East.

Nabatean methods varied over the years. Earlier, as noted, Rome's first advance was thwarted by bribery; the legions were "bought" by Antipater of Idumea, the desert area of ancient southwest Palestine, whose wife

allies to strengthen his fight against the Hasmonians in Jerusalem, his political rivals. Then later, when an investigative team was sent out to determine what part of greater Arabia to conquer first, it was led in circles for six months by the "scout" provided by the Nabatean king, Obodath. And when Antony kindly gave away Nabatean balsam groves in the Dead Sea Valley to Cleopatra — Herod rented them back — the Nabateans refused to pay the rent.

On another occasion, Augustus (Caesar) decided upon the royal succession — and sent a crown — but the king had already ascended the throne without consultation. Even in "cooperation" with the Romans, the Nabateans seemed to come out ahead. During the Jewish War of A.D. 70 the Nabatean king Malichus sent "help" — to the Roman army. Unfortunately, the Nabatean troops were a bit too efficient for the Roman commander and he sent them back to Petra.

Mighty Rome, of course, was seldom balked for long and eventually the Romans struck at Nabatea through her commerce — the very lifeblood of the kingdom by diverging trade routes in the south to Alexandria and trade routes in the north to Palmyra. Gradually, as a result, Nabatean power diminished — the last king even moved to Bosra in Syria — and in A.D. 106, the legions of Trajan marched through the Siq — apparently without resistance and apparently with the connivance of Nabatean nobles.

But the story did not end there. The acumen of the Nabateans, which had brought them to such pinnacles of progress, did not fade simply because of foreign invasion. As recent excavations at Petra have disclosed, the economic level of the Nabatu does not seem to have diminished after A.D. 106. Instead, new buildings were erected — once attributed to "the Romans", but, in fact, strikingly similar to classical Nabatean decoration — and as late as the fourth century the old trade lines across Sinai and across the Red Sea were converging at Tell el Shuqafya in the northwestern Delta area of Egypt — on their way to Rome's transit centre at Alexandria.

Less obvious, and now becoming more widely recognised, was the continuation of Nabatean influence in the arts and crafts.

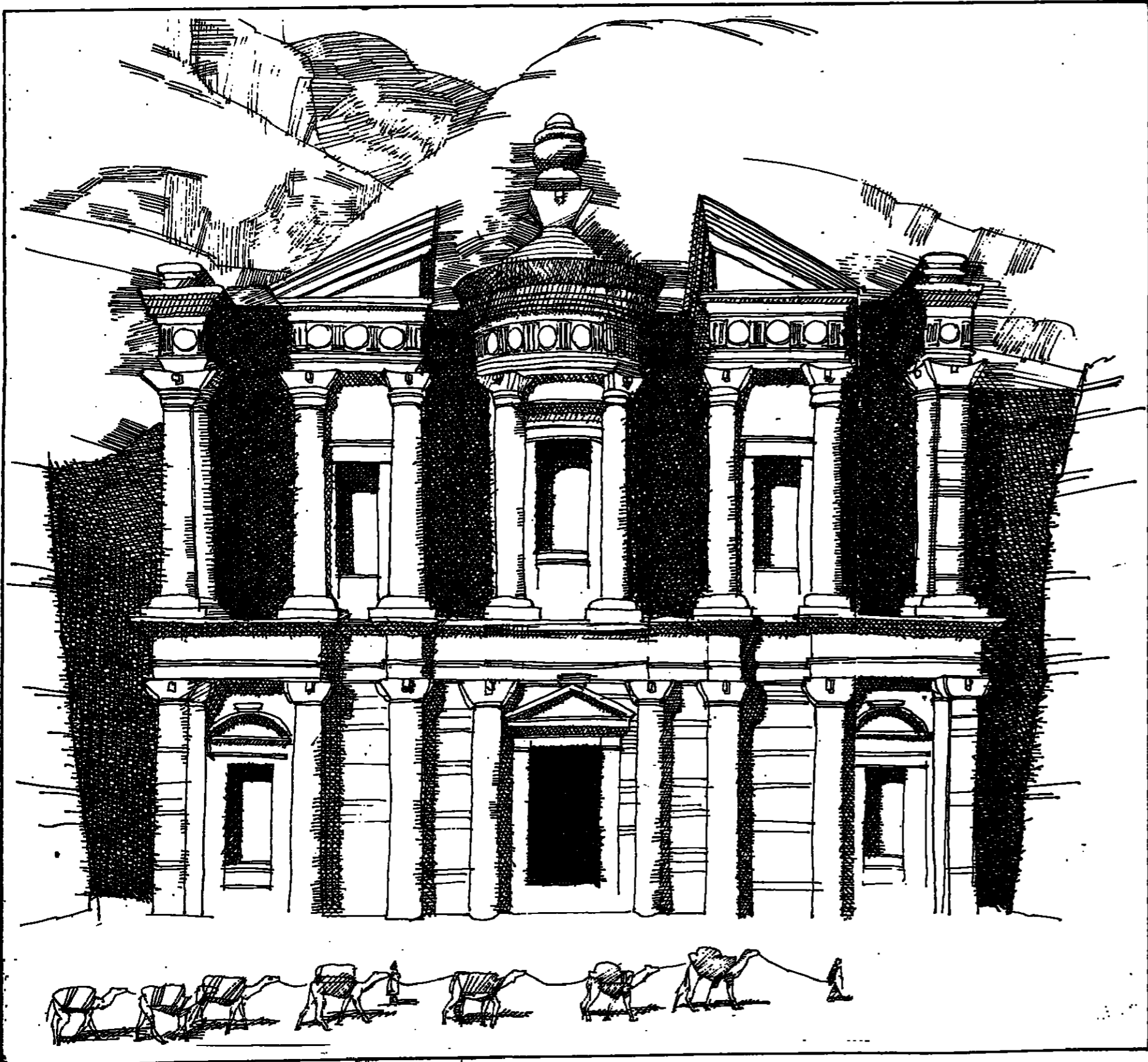
Again, recent excavations at Petra strongly refute change during the Byzantine period there — and the countless numbers of "Byzantine" structures seen throughout southern Syro-Palestine look very much like their earlier "Nabatean" counterparts. Here and there a cross was added to the vine foliage designs, once a symbol of the god of the Nabateans, but the Nabatean influence lingered on. Dams, reservoirs, and water systems of all sorts continued to be built as the Nabateans had always built them.

Pottery forms and decoration mirror the same perseverance as do other craft arts following the fall of Petra. And in Egypt, even Coptic art is said to owe a debt to Nabatean art — as business continued — as usual across Sinai and the Red Sea.

How many vestiges of art, engineering and architecture passed into early Islamic times, from the pre-Islamic Arab Nabateans, remains to be investigated. But whether direct contact can be determined is irrelevant, for around the budding Islamic culture, throughout all of southern Syro-Palestine and Egypt, craftsmen and artists were surrounded with the vestiges of the Nabatean influence. Even Arabic script echoes the increasingly ligatured letters of Nabatean inscriptions, as against the more pictographic scripts of the Thamudians and others of the peninsula. The Nabatu, in short, did more than build the "rose-red city"; they also established an astonishing network of trade routes, outwitted the Roman Empire and paved the way for advances in art, literature, architecture and hydraulics that would not come until Petra, and the civilisation it represented, had sunk into the archives of history and the silence of the desert.

Philip C. Hammond is a professor of anthropology at the University of Utah.

(Aramco World magazine)



YOUR DAILY
Horoscope
from the Carroll Righter Institute

YOUR DAILY
Horoscope
from the Carroll Righter Institute

FORECAST FOR THURSDAY, APR. 16, 1981

GENERAL TENDENCIES: Adopt a broader point of view in your relationship with associates and gain increased harmony. Come to new agreements. Take time to improve your surroundings.

ARIES (Mar. 21 to Apr. 19) Look to business experts for advice you need. Contact close allies in the evening who can be of assistance to you.

TAURUS (Apr. 20 to May 20) Concentrate on how you can be more productive in the days ahead. Take no risks where finances are concerned.

GEMINI (May 21 to June 21) Make it a point to see that today's activities are well organized before you launch into them. Aim to please family members.

MOON CHILDREN (June 22 to July 21) A good day for shopping and marketing. Study a new outlet that could add to your abundance.

LEO (July 22 to Aug. 21) Handle matters of credit intelligently in the morning and later you can join congenials for recreation. Be happy.

VIRGO (Aug. 22 to Sept. 22) Going after your personal aims will see you gaining them quickly. Try to meet the expectations of family members.

LIBRA (Sept. 23 to Oct. 22) Formulate a new plan that will help you become more successful. Go to the right sources for important data you need.

SCORPIO (Oct. 23 to Nov. 21) Close friends can be helpful in a new project you have in mind. Obtain information you need from an expert.

SAGITTARIUS (Nov. 22 to Dec. 21) You can make a fine impression on higher-ups now. Study a new outlet that looks promising. Relax tonight.

CAPRICORN (Dec. 22 to Jan. 20) New ideas you have can be put in operation quickly with good results following. Lend a helping hand to others.

AQUARIUS (Jan. 21 to Feb. 19) Be sure to keep those promises you have made to associates. Avoid the expenditure of too much money.

PISCES (Feb. 20 to Mar. 20) Make better arrangements with those you wish to be associated with in the future. Seek the advice of an expert.

IF YOUR CHILD IS BORN TODAY... he or she will have the knack of getting others to join in some worthy cause, and should have sufficient education in order to make the most of this ability. Your progeny will be most interested in sports.

"The Stars impel, they do not compel." What you make of your life is largely up to you!

FORECAST FOR FRIDAY, APR. 17, 1981

GENERAL TENDENCIES: This is a good day and evening to adopt a new attitude with associates and gain a better relationship. A friend in a position of authority can give you a helping hand now.

ARIES (Mar. 21 to Apr. 19) Associates will come to a better agreement now and mutual success is possible. Strive to gain added prestige.

TAURUS (Apr. 20 to May 20) Fine day for improving conditions around your home and making it more comfortable. Look for quiet pleasure.

GEMINI (May 21 to June 21) Show appreciation to associates and you gain their added cooperation. A special talent can bring added income.

MOON CHILDREN (June 22 to July 21) You are able to make your home more functional with little effort. Pay more attention to financial affairs.

LEO (July 22 to Aug. 21) Be more cooperative with associates and get better results. Be extra careful in the expenditure of money today.

VIRGO (Aug. 22 to Sept. 22) Take time to study every angle of a property matter that could add to your abundance. Strive to be more successful.

LIBRA (Sept. 23 to Oct. 22) Use your charm to make a good impression on others. Showing more consideration for loved one brings more harmony.

SCORPIO (Oct. 23 to Nov. 21) You are able to handle civic matters in a most intelligent way and add to your prestige. Obtain the data you need.

SAGITTARIUS (Nov. 22 to Dec. 21) You have fine ideas that should be put in operation without delay. Enjoy social affairs in the evening.

CAPRICORN (Dec. 22 to Jan. 20) You can accomplish much in the business world today by applying yourself more. Avoid tendency to be extravagant.

AQUARIUS (Jan. 21 to Feb. 19) Meet the expectations of associates and you gain increased benefits. Express happiness with the one you love.

PISCES (Feb. 20 to Mar. 20) Follow your hunches which are accurate now. Being more thoughtful of loved one brings fine results at this time.

IF YOUR CHILD IS BORN TODAY... he or she will be one who can easily communicate with others, so be sure to give the type of education that will steer your progeny to success. Be sure to give good religious training. One who will be good at sports.

"The Stars impel, they do not compel." What you make of your life is largely up to you!

Better and safer traffic control

By Neil Heayes

As highway construction and design improves, vehicle speeds increase. And as a result of changes in the design and function of road traffic new and improved methods of controlling vehicles and bringing greater safety on the roads, are regularly being tried out in Britain.



New signals being tried out on the M1 motorway in Britain by the Transport and Road Research Laboratory. (Photo of TRRL).

Traffic control was not always regarded as being of prime importance in motorway design and construction but studies of accidents and other incidents involving obstructions to traffic lanes have shown that systems to reduce accidents and improve traffic flow are as vital a part of motorway construction as the carriageway and bridges.

This revised thinking has enabled a standard national system to be devised, allowing traffic on various sections of road to be controlled from a central point in the area. A recent example of this is on the Pontardulais by-pass section of the M4 motorway in North Wales where, in 1977, consulting civil engineers, W.S. Atkins and Partners carried out the design, project control and commissioning of a system which controls 90 km of roadway from a single point. This type of development is influencing the type and form that traffic signals are taking.

Much of this work falls upon the Transport and Road Research Laboratory (TRRL) based in Berkshire, southern England, where research ranges from studying the effects of increased parking meter charges to traffic signal trials.

Together with local authorities and manufacturers, it is now engaged in establishing a new generation of signals to keep Britain's road traffic moving rapidly and safely. A current experiment was started towards the end of 1979 on a section of the M1, Britain's oldest and still most used motorway, connecting London with the industrial Midlands and the North of England.

Experience has shown that existing signals have not proved effective enough in limiting traffic speeds at hazardous times or in preparing drivers for hazards about to be met, such as breakdowns, adverse weather conditions or roadworks. Measurements taken on lengths of the motorway where signals are sited on central reservations or on gantries over the traffic lanes, showed that motorists would, in the words of TRRL, "be better prepared for hazards and probably respond better to advisory speed limits if the signals illustrated the nature of the hazard and, where appropriate, its distance ahead."

With this in mind, TRRL has commissioned a signal with three illuminated panels. The top panel is identical to existing signals and advises on speed limits or indicates closed lane. A central panel shows one of 12 pictograms representing the nature of the hazard and the lower panels show how far ahead the hazard will be encountered. This new generation of remote controlled signals replaces nine conventional signals on one section of the Motorway. Investigation of drivers' responses is being recorded by using detectors embedded in the carriageway some 400 m after each of the signals. These are connected to recording equipment at the roadside which notes vehicle speeds, spacing and lane positioning.

A further development of remote controlled signalling came into use on the M4 and A48 Motorways in South Wales last year (1979). This was the first variable message system of its kind to be installed in Britain. Again, W.S. Atkins was the appointed consultant. Operating from a motorway control centre, the specially designed signs from Plessey Controls Ltd., consist of a series of flat elements which pivot to display or conceal a message. The faces are highly reflective and in addition have flashing lamps to draw drivers' attention to the message. Although still experimental, the system could be adopted widely if it proves successful.

Experiments aside, traditional signs are still being improved -- the main objective being legibility at high speed at all times of day or night. Much of this new technology, especially where signs are concerned, has as much to do with finance as regulating traffic and can be related to energy conservation. For example, traffic signs on motorways and major roads were often lit unnecessarily and in the years between 1973 and 1976 the price of kilowatts/hour for public lighting rose by more than 107%, with further spiralling costs since then. Alternative means of illumina-

tion had to be found. One of these was the development of reflecting signs and among the products pioneered was a reflective material. High Intensity Scotchlite from the 3M group. That company has produced figures to show that 2.68 m by 1.48 m advance direction signs using that type of material could make a 22% saving over electrically illuminated signs. Existing signs can also be effectively treated with High Intensity Scotchlite material to save on electric illumination.

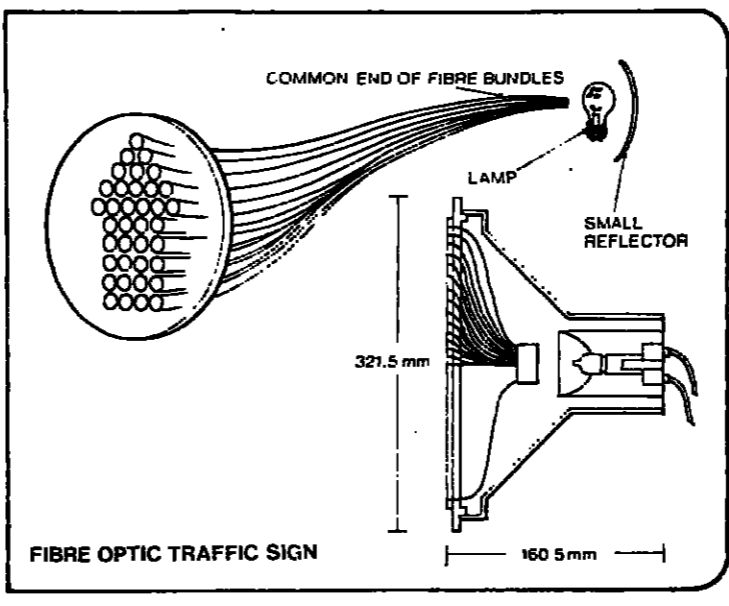
A further advance in this field is the development of fibre optics. Traffic signs developed by Barr and Stroud uses fibre light guides manufactured by the Pilkington Group. Barr and Stroud claims that the design eliminates the hazard of "phantom images" which can mislead drivers in bright sunlight into thinking that a signal is on when in fact it has been switched off.

The basic components of a fibre optic sign differ from the conventional in that instead of a mask being used to generate the signal shape, several bundles of fibre light guides are employed to transmit the light from a quartz halogen lamp to the face of the sign, using a much smaller reflector than is normally needed. The technique, which has received Department of Transport approval, can also be used for pedestrian signals such as the standing and walking man pictograms.

Country lanes and urban roads present their own particular problems. Local authorities in Britain are being pressed by central government to drastically reduce operating expenditure -- an attractive source of saving is in the maintenance of road surface markings which can be intensive in labour and costly. At last year's Trufex exhibition, 3M United Kingdom Ltd., introduced two new products which could help alleviate these problems. "Stanmark" road marking material is based on a pliant polymer film which is applied direct to the road surface. The only preparation required is the removal of all dirt and extraneous material and a dry surface. The material is fixed to the roadsurface by means

of a contact cement applied to the road and to the underside of the marking material. The manufacturer claims that the material, available in both white or yellow, will resist weather and traffic wear for up to three years without fading, shrinking, lifting or tearing. Suitable small-job applications include zebra crossings, mini-roundabouts, lines, legends and symbols. The latter can be pre-cut and stored in bulk until used.

Cluser to its traditional adhesive tape products is 3M's other new product, Scotchlane, a self-adhesive metal based material suitable for temporary or short term markings. It can be applied direct to a clean surface although for best results a surface primer is recommended. After tamping down, the material is ready for traffic but its special advantage is that it can easily be removed when no longer required, making it useful for applications such as roadworks and temporary lane markings. It may be removed by careful lifting or applying heat from a medium size propane torch. The production of road traffic signs is expanding in Britain and manufacturers are bringing out better and safer signs. With more goods being transported by road every year, traffic control needs all the help it can get.



GOREN BRIDGE

BY CHARLES H. GOREN
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Both vulnerable. North deals.

NORTH
♦ A Q 8 7
♥ K Q 10 2
♦ 10 6 2
♠ 9 3

WEST **EAST**
♥ Void ♠ 5 4
♦ J 7 6 4 ♥ 9 8 3
♠ A K Q J 8 7 ♦ 9
5 4 3

SOUTH
♦ K J 10 9 6 3 2
♥ A 5
♦ Void
♠ 8 7 5 2

The bidding:
North East South West
Pass 3 ♦ 3 ♠ 5 ♦
6 ♠ Pass Pass Pass
Opening lead: Jack of ♠.

Declarer ruffed the opening lead, drew two rounds of trumps ending in dummy, and ruffed a diamond as East discarded a club. Putting two and two together, West surely had a lot of red cards, and declarer decided that West had led the lowest of his sequence of diamond honors in an attempt to get his partner to ruff. There could be only one explanation for that -- West had to be void in clubs.

West's hand, therefore, consisted of nine diamonds and four hearts, and declarer began to see a ray of light. Since West started with more hearts than did East, he was more likely to hold the jack of hearts. So declarer cashed the ace of hearts and led a heart to dummy's ten. When that held, prospects really brightened.

Declarer cashed the king and queen of hearts, discarding clubs from his hand, then led dummy's last diamond. But instead of ruffing, declarer discarded another club from his hand, presenting West with a diamond trick and the lead.

This was a situation that West did not relish. He was forced to lead a diamond. Declarer ruffed in dummy and discarded his last club, and the slam was made.

Knowing the prowess of our readers, we are sure that all of you realized immediately that the only trick declarer would lose would be a diamond!

THE Daily Crossword by Raymond F. Eisner

ACROSS	25 Kwi relative	48 Ship's capacity	12 German art song
1 System of rules	26 Takes in	50 -- culpa	13 Corn units
5 Old World songbird	30 Servitude	51 Pick up the marbles	21 Army Jones
10 Name in soccer	34 Singing brothers	52 "Laughing Boy" author	23 Stickum
14 Nerve-cell process	35 "...part-ridge in -- tree"	56 Households	26 Senegal's capital
15 Tilted	37 Word with up or down of Jordan and Colo.	60 Highly excited	27 Likeness
16 Late queen	38 Between Mo. and Colo.	61 Live coal	28 Dramatist
17 Sch. subj.	39 School subject	64 Horse	29 Practices for a bout
18 Supernatural ser-witor	40 Creek	65 -- Janeiro	30 Actress
19 Busy body	41 On in years	66 Surrealist painter	31 Artery
20 Infuriates	43 Bay window scraps	67 Thin nail	32 "Peer Gynt" composer
22 Random	45 Relative of a via	68 Sober-minded	33 Lake in Finland
24 Martini base	46 Holds on to	69 Goose follower	36 Wallach

Yesterday's Puzzle Solved:

DOWN	1 Bating practice screen	47 Occupation-al ending
2 Bovines	49 Anais --	
3 After trap or stage	52 Gullible one	
4 Takes on	53 Colloid	
5 Purplish red	54 -- song (cheap)	
6 Beverages	55 Let out	
7 Drink: Fr.	56 Middle:	
8 "Who --?"	58 comb. form	
9 Boat	57 Lecher	
10 Exhibition	58 Sher: Fr.	
11 College in N.C.	59 Lapse	
	62 Large snake	

Peanuts

Andy Capp

Mutt 'n' Jeff

JUMBLE THAT SCRAMBLED WORD GAME

Unscramble these four Jumbles, one letter to each square, to form four ordinary words.

SAYES

GARBE

TAPCER

RANLYX

Now arrange the circled letters to form the surprise answer, as suggested by the above cartoon.

Answer here: [] [] [] [] [] [] [] []

(Answers tomorrow)

Yesterday's Jumbles: BOUND WHEEL BEWARE FORCED
Answer: You might be in need of these inside facts when you're "high up" -- THE LOWDOWN

THE BETTER HALF By Vinson

